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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/597,966	06/20/2000	Xiaochun Li	S00-042	5925

7590 03/06/2003

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EXAMINER

VALENCIA, DANIEL E

ART UNIT PAPER NUMBER

2874

DATE MAILED: 03/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/597,966

Applicant(s)

LI ET AL.

Examiner

Daniel E Valencia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 10 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 and 35-63 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7, 22, 23, 33 and 34 is/are rejected.
- 7) ☒ Claim(s) 8-21, 24-32 is/are objected to.
- 8) ☒ Claim(s) 1-63 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### **DETAILED ACTION**

This Office Action is in response to the communication filed on February 10, 2003. In accordance with communication, claims 7, 8, 22, and 23 have been amended, and the abstract has been amended.

#### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 418. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. Applicant is reminded, that this application will go abandoned if the matter is not addressed in the response to this Office Action.

#### ***Claim Rejections - 35 USC § 102***

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 7, 22, 23, 33, and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Golnas U.S. Patent No. 5,996,219. Refer to the appropriate drawings or parts of the specification. Golnas discloses a method for embedding electric or optical components in high

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temperature metals with all the limitations of the abovementioned claims. Regarding claim 7, Golnas discloses a metal embedded sensor (see fig 7 and 8) comprising: a metal structure comprising a metal having a melting temperature above 660°C (col. 5, lines 20-25 and col. 1); and a sensor embedded (fig 8) inside the metal structure. Although Golnas does not explicitly state that the metal structure is formed by a molten metal forming process, such that the bulk material is transformed into balanced heat load onto the sensor for uniformly expanding without cracking it, these limitations do not result in a structure that is readily discernible from the device disclosed in the by the prior art (Golnas) and the structure being claimed is therefore completely met by the reference. Applicant is claiming structure, not method, and the USPTO bears a lesser burden when method –related limitations result in structure that cannot be readily discerned from structure not having such method-related limitations. (See MPEP 2113.)

Golnas further discloses that the metal structure comprises a coating metallic layer (30 and 32); and an embedding metallic layer (18), wherein the coating metallic layer comprises a first metallic layer (30), and a second metallic layer (32) on the first metallic layer, and wherein the first and second metallic layers can be made of copper (col. 4, lines 45-50), as explained in claim 22. Referring to claim 23, Golnas discloses that the sensor comprises a first insulating layer (14); a sensor layer (22a or 22b) disposed on the first insulating layer; and a second insulating layer (28) disposed on the sensor layer. Although Golnas does not explicitly state that the layers are a maximum thickness for providing electric insulation of the sensor (col. 4, lines 29-34), the reference does state that the layer performs electrical insulation; and therefore this limitation is inherently disclosed in the reference. Golnas further discloses that the first and

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second insulating layers comprise insulating oxides that can contain aluminum (col. 4, lines 1-30), as described by instant claims 33 and 34.

***Allowable Subject Matter***

Claims 8-21 and 24-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: As to dependent claim 8, the prior art alone or in combination fails to disclose or render obvious the metal embedded sensor of claim 7, wherein the metal structure comprises:

- a. a coating metallic layer;
- b. an embedding metallic layer on the coating metallic layer; and wherein the metal structure is *direct adhesive contact* with said sensor. For example, Golnas discloses an embedded sensor with the locating metallic layer and the embedding metallic layer; however, the reference fails to teach that the sensor is in direct adhesive contact with the metal structure.

As to dependent claim 24, the prior art alone or in combination fails to disclose or render obvious the metal embedded sensor of claim 23, wherein the sensor further comprises an adhesive layer contacting the first insulating layer. Although Golnas teaches the insulating layer, the reference does not suggest the use of an adhesive layer.

For reasons for indicating allowable claim 30, see previous Office Action mailed November 8, 2002 (Paper No. 8).

As to dependent claims 31 and 32, the prior art alone or in combination fails to disclose or render obvious the metal embedded sensor of claim 23, wherein the thickness of the first or second insulating layer is between 10nm and about 15 nm. Specifically, Golnas discloses a range of 2-10um thickness for the insulating layers, not the range described in claims 31 and 32.

### ***Conclusion***

Applicant's arguments filed February 10, 2003 have been fully considered but they are not persuasive. The arguments made in the response have been addressed in the rejection of claims 7, 22, 23, 33, and 34 above.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel E Valencia whose telephone number is (703)-305-4399.

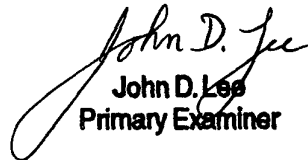
The examiner can normally be reached on Monday-Friday 9:30-6:00.

The fax phone numbers for the organization where this application or proceeding is assigned are (703)-308-7724 for regular communications and (703)-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.



dv  
March 5, 2003



**John D. Lee**  
Primary Examiner